REMARKS / ARGUMENTS

Status of the Claims

Claims 1-7 and 9-19 are pending in the application. Claims 1-7 and 9-19 stand rejected. Applicant has amended claims 1 and 15-19, leaving claims 1-7 and 9-19 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §103(a), have been traversed, that no new matter has been entered through this amendment, and that the application is in condition for allowance.

No New Subject Matter

For the Examiner's reference, support for the attached amendments may be found in at least, for example, the subject specification in paragraph [0023], [0024] (e.g., only operating in a selected region of interest of the lung), and FIGS. 3-4.

Entry of Amendment After Final

Entry of the attached claim amendments after the pending final rejection is respectfully requested in that it is believed the attached amendments raise no new issues, the amendments are fully supported by the subject specification, and the amendments would place the application in condition for allowance.

Response to Arguments Submitted on July 2, 2007

Applicant thanks the Examiner for withdrawing the objection to the claims, the objections to the specification, and the rejections under 35 U.S.C. §112 based on Applicant's response submitted on July 2, 2007.

Claim Rejections - 35 U.S.C. §103(a) (Li and Lindeberg)

Claims 1-7, 11-12, and 14-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,937,776 to Li et al. (hereinafter Li) in view of

"Discrete Derivative Approximations with Scale-Space Properties: A Basis for Low-Level Feature Extraction," by Lindeberg (hereinafter Lindeberg). Applicant respectfully traverses this rejection.

Applicant respectfully submits that the obviousness rejection based on Li and Lindeberg is improper as the combination of References fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

It is submitted that Li and Lindeberg, taken alone or in combination, fail to disclose or suggest *inter alia* "isolating a selected region of interest from the multi-dimensional dataset ... generating a plurality of differential operators <u>for the selected region of interest, separate from the multi-dimensional dataset, using a discrete approximation of an analytic function</u>" as recited in independent claim 1 (emphasis added).

As previously submitted, Li is directed to computer-aided detection of nodules with three-dimensional shape enhancement filtering of <u>an entire set of image data</u> (see Li, Abstract). As set forth in the Abstract of Li (emphasis added below):

> ... filtered image data can be subjected to processing to derive a measure indicative of the presence of the object in the image, including determining a region of interest in the image, extracting at least one feature from the first filtered image data from within the region of interest, and <u>applying the at least one extracted feature to a classifier configured to output the measure indicative of the presence of the object in the image. The image data can also be subjected to filtering with second and/or third geometric filters which enhance different geometric patterns</u>, and which produce respective filtered data which are also processed to derive the measure indicative of the presence of the object.

Therefore, Li clearly discloses classification of a feature in a region of interest, but remains silent regarding filtering <u>only the region of interest</u>. In fact, Li goes so far as to

explicitly state that "[w]hether or not a region of interest and/or nodule candidates are identified from the nodule enhanced (dot-filtered) images, the original image is also filtered with at least one of the 3-D line and plane enhancement filters" (see Li, col. 12, ll. 56-67, emphasis added).

As such, Li merely discloses classifying nodule candidates in a region of interest and filtering an entire set of image data. Therefore, Li cannot disclose or suggest "isolating a selected region of interest from the multi-dimensional dataset ... generating a plurality of differential operators for the selected region of interest, separate from the multi-dimensional dataset, using a discrete approximation of an analytic function" as recited in independent claim 1 (emphasis added).

Furthermore, it is noted that claim 1 recites, "isolating" a region of interest (emphasis added). Applicant submits that Li is directed to classifying nodule candidates with filtering of an entire image data set regardless of whether nodules are detected, and therefore, Applicant does not concede that Li's classification could be construed as any form of "isolation" at all.

Moreover, it is respectfully submitted that the Examiner merely relies on Lindeberg for disclosure of discrete approximations (see Office Action, page 4), and that Lindeberg does not disclose at least the features outlined above with reference to claim 1

Therefore, because Li and Lindeberg fail to disclose or suggest each and every feature of claim 1, claim 1 is patentable over Li and Lindeberg in any combination.

It is further submitted that each of independent claims 15, 16, 17, 18, and 19 contain somewhat similar features to those argued above with reference to claim 1. Therefore, claims 15, 16, 17, 18, and 19 are likewise patentable over Li and Lindeberg for at least these reasons (it is noted that claims 15, 16, 17, 18, and 19 should be interpreted solely by those limitations set forth therein).

Claims 2-7, 11-12, and 14-21 are patentable at least by virtue of their dependency upon independent claim 1, in addition to the features set forth therein.

In view of the foregoing, Applicant submits that Li and Lindeberg fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, and therefore cannot properly be used to establish a prima facie case of obviousness.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claim Rejections - 35 U.S.C. §103(a) (Li, Lindeberg, and Hu)

Claims 9, 10, and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Li and Lindeberg, in further view of "Automatic Lung Segmentation for Accurate Quantitation of Volumetric X-Ray CT Images," by Hu et al. (hereinafter Hu). Applicant respectfully traverses this rejection.

As argued above, Li and Lindeberg fail to disclose or suggest the features of independent claim 1. Furthermore, Applicant submits that even if Li, Lindeberg, and Hu were combinable (which Applicant does not admit), the resulting combination would still not disclose or suggest the features of claim 1, as Hu fails to cure the deficiencies of Li and Lindeberg discussed above. Therefore, Applicant submits that claim 1 is patentable over Li, Lindeberg, and Hu, and that claims 9, 10, and 13 are patentable at least by virtue of their dependency upon independent claim 1.

Applicant respectfully requests the Examiner withdraw this rejection.

CONCLUSION

In light of the forgoing, Applicant respectfully submits that the pending rejections have been traversed, and respectfully requests that the Examiner reconsider and withdraw these rejections.

If a communication with Applicant's Attorneys would assist in advancing this case to allowance, the Examiner is cordially invited to contact the undersigned so that any such issues may be promptly resolved.

The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 07-0845.
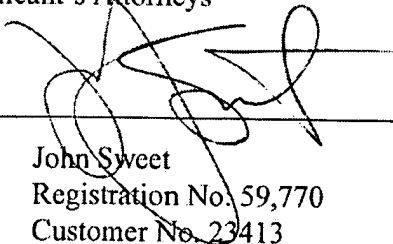
In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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